

**CLAIMS**

1. A method for interconnecting elements of a network using an LDT  
5 interface in a defined network topology, comprising the steps of:

interconnecting a plurality of integrated circuits in a multi-dimensional  
network configuration using an LDT interface;

wherein at least one of said integrated circuits has more than two LDT  
interfaces; and

10 wherein said integrated circuits are interconnected without requiring an  
LDT switch.

2. The method of Claim 1, wherein each integrated circuit comprises at least  
four LDT interfaces.

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3. The method of Claim 1, further comprising the step of:

assembling integrated circuits having four LDT interfaces into a two-  
dimensional mesh.

20 4. The method of Claim 1, further comprising the step of:

linking integrated circuits having four LDT interfaces into a PLEX  
topology.

25 5. A network comprised of elements using an LDT interface in a defined  
network topology, comprising:

a plurality of integrated circuits connected in a multi-dimensional network configuration using an LDT interface;

wherein at least one of said integrated circuits has more than two LDT interfaces; and

5 wherein said integrated circuits are interconnected without requiring an LDT switch.

6. The network of Claim 5, wherein each integrated circuit comprises at least four LDT interfaces.

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7. The network of Claim 5, wherein said integrated circuits each comprise four LDT interfaces.

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8. The network of Claim 7, wherein said integrated circuits are assembled into a two-dimensional mesh.

9. The network of Claim 7, wherein said integrated circuits are linked into a PLEX topology.